

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number  
**WO 2005/017820 A1**

(51) International Patent Classification<sup>7</sup>: **G06K 9/80**  
(21) International Application Number:  
PCT/DK2004/000540

(22) International Filing Date: 13 August 2004 (13.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
PA 2003 01178 15 August 2003 (15.08.2003) DK

(71) Applicant (for all designated States except US): **SCAPE A/S** [DK/DK]; c/o Novi A/S, Bredgade 56, 2., DK-1260 Copenhagen K (DK).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BALSLEV, Ivar** [DK/DK]; Engvej 56, DK-5230 Odense (DK). **ERIKSEN, René, Dencker** [DK/DK]; Dagmargade 4, 2.tv, DK-5000 Odense C (DK).

(74) Agent: **PLOUGMAN & VINGTOFT A/S**; Sundkrogs-gade 9, P.O.Box 831, DK-2100 Copenhagen Ø (DK).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

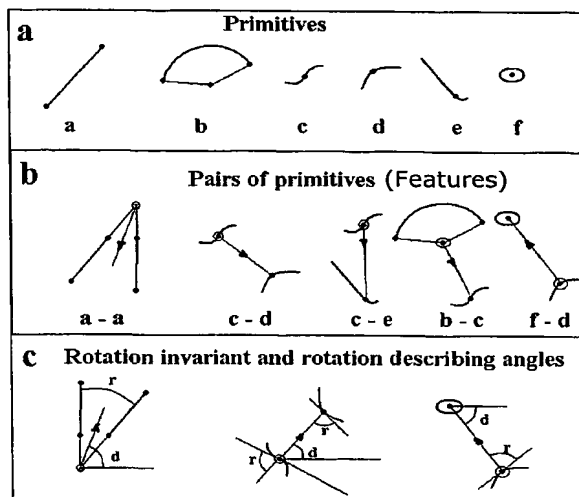
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **COMPUTER-VISION SYSTEM FOR CLASSIFICATION AND SPATIAL LOCALIZATION OF BOUNDED 3D-OBJECTS**



(57) Abstract: The invention relates to a system and method for recognition, classification and spatial localisation of bounded 3D-objects. In particular it relates to a computerised method for recognition, classification and localization of objects. The method comprises generation of a training database based on a large number of training views recorded by a camera or constructed using a CAD representation of an object. Characteristic curves are derived from the training views, and primitives of the curves are detected. Intrinsic and extrinsic descriptors of features are stored in the database together with data about the object class and pose of the view. Finally the recognition takes place in two stages: First the intrinsic descriptors of the recognition view are compared with those of the database. Second, among the best matching features it is explored which features agree mutually in the sense that they suggest the same object class at the same pose.

WO 2005/017820 A1